

IN THE CLAIMS:

The following is a complete listing of claims in this application.

1. (original) An installation for the high-speed acquisition of acquisition data via an Ethernet network (2) with several nodes (N), where at least one of the nodes of the Ethernet network constitutes a client/server detection unit (3) with at least one detector (4) delivering acquisition data,

characterised in that each detection unit (3) includes:

self-triggering resources for reading the acquisition data so that the said detection unit (3) is able to operate independently,

reading and processing resources independent of the other nodes,

resources for transmission of the acquisition data via the network (2) to at least one other node (N),

and a clock unit allowing correlation between the clocks of the detection units, where each clock unit has:

resources for receiving a clock synchronisation signal, generated by one of the said units and including encoded instructions,

resources for transmission of an acknowledge signal to the clock unit transmitting a synchronisation signal,

and resources for processing the encoded instructions, in particular to increment an event-marking sensor.

2. (original) An installation according to claim 1, characterised in that at least one of the nodes (N) of the Ethernet network (2) constitutes a client/server user unit (10) designed to provide the detection unit (3) with

configuration data from the said unit, and to receive acquisition data transmitted by the detection unit (3).

3. (currently amended) An installation according to ~~claims 1 and 2~~ claim 2, characterised in that each detection unit (3) includes:

a detector (4) performing the conversion of a physical magnitude into electrical signals delivered on several output paths,

and a sequencer (13) with resources performing:

- sequencing for reading the acquisition data from the detector and the configuration data,
- storage of the acquisition and configuration data,
- analysis and processing of the acquisition data from the detector,
- the interface to a network processor (2),

- and an Ethernet network processor (14) with resources providing:

- the interface to the sequencer,
- reception of the data sent by the user unit (10) to perform the configuration of the detector (4) and of the sequencer (13),
- processing of the acquisition data,
- and transmission of the acquisition data from the detector (4) to the user unit (10).

4. (original) An installation according to claim 3, characterised in that the sequencer (13) includes resources performing:

formatting of the acquisition data from the detector (4) and of the information resulting from the processing effected by the detection unit (3),

storage in a memory (16) of the processed and formatted acquisition data,

and temporal marking of the trigger for acquisition of the data.

5. (original) An installation according to claim 4, characterised in that the sequencer **(13)** is built around an FPGA device.

6. (currently amended) An installation according to ~~claims 1 and 3~~ claim 3, characterised in that the Ethernet network processor **(14)** includes resources performing:

retrieval of the data stored in the memory **(16)** by the sequencer **(13)**,

analysis and processing of the said data,

formatting of the processed data,

and shared management of the data processing with other nodes of the network **(2)**.

7. (original) An installation according to claim 4, characterised in that the sequencer **(13)** performs the storage of the data in memory **(16)** inside or outside the sequencer.

8. (original) An installation according to claim 1, characterised in that the detector **(4)** includes:

a sensitive sensor with a series of output paths,

a sub-module for reading the acquisition data, controlled by the sequencer and including a frontal electronic unit,

and a control sub-module managed by the sequencer to configure and control the frontal electronic unit.

9. (original) An installation according to claim 8, characterised in that the frontal electronic unit of the read sub-module includes:

resources for reading the acquisition data, resources for selection of the acquisition mode, and resources for selection of the acquisition trigger source,

resources for amplification and shaping of the signals, and resources for receiving the configuration parameters.

10. (original) An installation according to claim 8, characterised in that the control sub-module includes resources to control the frontal electronic unit and to control the detector.

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